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10/748,197

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EXAMINER

THOMPSON, MELISSA

ART UNIT

PAPER NUMBER

1745

MAIL DATE

DELIVERY MODE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/748,197

Applicant(s)

KIM ET AL.

Examiner

Melissa B. Thompson

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 14-26 is/are pending in the application.
- 4a) Of the above claim(s) 8-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 14-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>see office action</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's arguments, filed on February 22, 2007, with respect to the restriction of claims has been fully considered and are persuasive. The restriction of claims has been withdrawn.

### ***Information Disclosure Statement***

2. The IDS filed December 31, 2003, April 25, 2005, and September 21, 2006 have been considered.

### ***Drawings***

3. The drawings are objected to because Figure 6B shows that the tab is cut along a dotted line. The dotted line cut portion looks to be about  $\frac{1}{2}$  the width of the current collector as shown. Thus if the dotted line shown in Fig. 6B was folded toward the upper end of the current collector, the folded portion would be about the same height as the upper end of the current collector or, at best, only slightly above the upper end of the current collector if any portion of the fold. However, Figure 6C shows that the folded portion extends significantly above the upper end of the current collector more than it should while still only having been formed from a cut portion which was about  $\frac{1}{2}$  the width of the current collector. In order for the tab to extend that far above the current collector, the cut portion would have extend more than  $\frac{1}{2}$  the width of the current collector itself. As is show in Figure 6C, there is no possible way for the electrode tab to extend that far above the current collector from the cut made along the dotted line in Figure 6B. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required

in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 4-7, 10, 11, 15, 20-23, 27, and 28 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for creating a first or second electrode tab that is cut more than half widthwise with respect to the first or second electrode current collector, does not reasonably provide enablement for when the first or second electrode tab is cut in half widthwise with respect to the first or second electrode

current collector. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. In order for the invention to work as claimed, the first or second electrode tab would need to be cut a great deal more than just half widthwise of the first or second electrode current collector. The first or second electrode tab is mean to extend above the upper end of the first or second electrode current collector, and in order to do so, the cut would need to be made substantially longer than half widthwise of the first or second electrode current collector.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 4-7, 10, 11, 15, 20-23, 27, and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claims 4,10,15, and 20 recite the limitation "the upper end " in line 3 of the claims. There is insufficient antecedent basis for this limitation in the claim.

9. Claims 4,10,15, and 20 recite the limitation "the electrode current collector" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claims 5-7, 27, and 28 are dependent on claim 4 and are therefore rejected for the same reason.

Claim 11 is dependent on claim 10 and is therefore rejected for the same reason.

Claims 21-23 are dependent on claim 20 and are therefore rejected for the same reason.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-4, 7-11, 13-20, and 23-26 rejected under 35 U.S.C. 102(b) as being anticipated by Sugita et al. (U.S. Patent Number 6,432,578 B1).

Sugita et al. disclose a spirally wound seal cell (abstract). The cell includes a first electrode plate (20) having a first electrode current collector with a first electrode tab (23). The first electrode has an active material layer coated on at least one surface (22 in Figure 9). Sugita et al. disclose a second electrode plate (30) having a second electrode current collector with a second electrode tab (33). The second electrode has an active material layer (32 in Figure 10). The spirally wound electrode boy is formed by rolling the first electrode plate (20) and the second electrode plate (30) with a separator (41) in between (Figure 11). The first electrode tab (23) is incorporated into the electrode current collector in an area of the first electrode plate (20) where the corresponding electrode active material layer (22) is not coated (column 1, lines 55-54, as applied to claims 1, 14 16, and 17).

Sugita et al. disclose that the spirally wound cell is located in an outer can (column 1, line 49). The can has a sealing lid (50), which is connected to an upper portion of the can. The sealing lid has a cap plate (51) and an electrode

terminal (54) formed in the cap plate and having an insulating gasket (52) at an outer surface (Figure 12, as applied to claim 14).

Sugita et al. disclose forming a first electrode plate (20) with a first electrode tab (23) at a first electrode current collector that is integrally connected to the first electrode current collector at a winding start portion (column 2, lines 31-37). Sugita et al. disclose forming a second electrode plate (30) having a second electrode current collector with a second electrode tab (33). A separator (41) is prepared and interposed between the first (20) and second (30) electrode plates. The cell configuration is spirally wound as seen in Figure 11 (as applied to claim 8).

Sugita et al. disclose that the first electrode tab (23) is formed by folding a cut portion of the electrode current collector (Figures 14A and B and column 3, lines 56-59). The start portion or completion portion is an arbitrary position depending on what is designated the start and finish of the wind. The completed battery, after winding is finished, could have the start portion or the completion portion at two different positions. Therefore, Sugita et al. disclose that the first electrode tab (23) is at either a start or completion portion of the wind (as applied to claims 2,3,9,14,18, and 19).

Sugita et al. disclose that an electrode current collector tab (240 in Figure 14b) is formed, which inherently means that the tab extends above the top of the battery roll. The term "half widthwise" is ambiguous to a given direction with respect to the current collector and would therefore apply to Sugita et al. The

fact that the tab must extend above the battery roll, would imply that the slit would have to be larger than half widthwise of the current collector. As seen in Figure 14b, the electrode current collector tab (240) is seen to be approximately cut half widthwise of the electrode current collector (as applied to claims 4,10,11,15, and 20).

Sugita et al. disclose that the first or second folded electrode tab partially overlaps with the electrode current collector having the opposite polarity in Figure 11 (as applied to claims 7, 13, and 23). By winding the battery in a jelly-roll style, the electrode current collector of opposite polarity would inherently overlap the first or second electrode tab.

By including all of the structural elements of claims 1 and 2, the apparatus is capable of performing the functions recited in claims 24-26. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429,1431-32 (Fed. Cir. 1997) "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (*MPEP* 2114).



***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 5, 6, 12, 21, 22, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugita et al. (U.S. Patent Number 6,432,578 B1) as applied to claims

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4,8, and 20 above, and further in view of Narukawa et al. (U.S. Patent Number 5,508,122).

The disclosure of Sugita et al. has been discussed above and is incorporated herein.

Sugita et al. do not teach the use of an insulating tape adhered to either surface of the first or second electrode tab.

Narukawa et al. teach that the lead connecting regions, or electrode tabs, are covered with insulating tape (column 1, lines 14-16, as applied to claims 5, 12, and 21).

Narukawa et al. teach that each electrode tab positioned at the outmost has insulating tape on the side toward the center of the spiral electrode, or between the inner and outer surfaces of the first and second electrode tab (column 1, lines 56-59, as applied to claims 6, 22, 27, and 28).

By including all of the structural elements of claim 4, the apparatus is capable of performing the functions recited in claims 27 and 28. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. In re Schreiber, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997) "[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed

does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) (*MPEP* 2114).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include the insulating tape of Narukawa et al. in the battery of Sugita et al. The insulative tape is used to prevent an internal short circuit (column 1, lines 15-16). Having the insulating tape positioned between the inner and outer surface of the first and second electrode tab, would assure that each lead will not touch another electrode (column 1, lines 59-60).

### ***Conclusion***

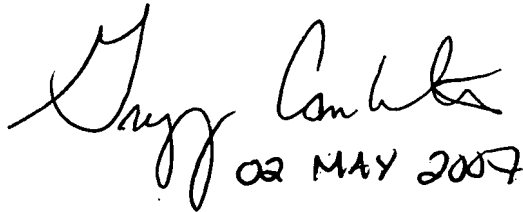
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa B. Thompson whose telephone number is (571) 272-2758. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MBT



02 MAY 2007

**GREGG CANTELMO**  
**PRIMARY EXAMINER**